West Virginia Department of Environmental Protection
Division of Air Quality

Fact Sheet

For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-03100003-2010**
Application Received: **May 4, 2009**
Plant Identification Number: **03100003**
Permittee: **American Woodmark Corporation**
Facility Name: **Hardy County Plant**
Mailing Address: **390 Industrial Park Road, Moorefield, WV 26836**

Issued February 1, 2010

Physical Location:	Moorefield, Hardy County, West Virginia
UTM Coordinates:	674.25 km Easting • 4323.12 km Northing • Zone 17
Directions:	Facility is located at the Moorefield Industrial Park approximately one mile south of Moorefield on the west side of U.S. Route 220/State Route 28.

Facility Description

American Woodmark Corporation's (AWC) Hardy county plant manufactures component parts for wood kitchen cabinets which are then shipped to assembly and distribution centers across the United States. This facility is classified under SIC - 2434 (lumber-wood products except furniture, millwork veneer plywood - structural wood, wood kitchen cabinets.) The manufacturing operation starts by receiving kiln dried wood dimension stock from sister plants and other outside sources; mostly oak (approximately 50%), maple, hickory, cherry and other wood species. The dimension stock is machined into parts which are then assembled. The assembly process involves nailing and gluing the parts together into front frames and doors. Some of the dimension stock is machined into miscellaneous or accessory parts such as drawer fronts, filler strips, valances, wine racks, etc. After machining and assembly, the white wood component parts are typically moved to the paint area where they receive various coats of finishing materials (stains, sealers, top coats). The component parts are then moved to the finished goods storage area. From the finished goods storage area, the parts (front frames, doors, and miscellaneous parts) are picked by order and shipped by common carrier to their Assembly and Distribution Centers.

The following is a brief description of how materials and parts flow through the manufacturing operation:

1. Kiln dried dimension stock is received from sister plants and other outside sources, unloaded at a receiving dock and moved to the raw material storage area.

2. Dimension stock is moved from the raw material storage area to frame machining or door machining areas where it is machined and sanded into specified shapes and sizes to be assembled into cabinet front frames or doors. The machined parts are moved to the in process storage area for frame or door assembly. After assembly by nailing and gluing the parts together, they are moved to the white wood storage area.

3. Some of the dimension stock is moved to the miscellaneous machining area where it is machined and sanded into miscellaneous component parts such as drawer fronts, filler strips, valances, etc. These parts are moved to the white wood storage area after machining.

4. From the white wood storage area, front frames are typically moved to a staging area at the beginning of finishing line 4. Doors and miscellaneous parts are typically moved to a staging area at the beginning of finish lines 1 and 2.

5. The front frames are normally run on finish line 4 which is a roll coater line utilizing high solids finishing materials and stains, activated by UV processing equipment. The doors and miscellaneous parts are normally run on finish lines 1 and 2 which have robotic spray machines with airless / air assisted spray guns and utilizes solvent base materials.

6. Front frames, doors, and miscellaneous parts receive various coats of finish material (such as stains, sealers, and top coats) as they are run through the finish lines. The finished parts are moved to the finished goods area.

7. Finished front frames, doors, and miscellaneous parts are pulled by order, packed on pallets, and shipped by common carrier to assembly and distribution plant.

Emissions Summary

Plant Wide Emissions Summary [Tons per Year]

Criteria Pollutants	Potential Emissions	2008 Actual Emissions
Carbon Monoxide (CO)	102.61	19.95
Nitrogen Oxides (NO_X)	46.85	16.3
Particulate Matter (PM_{10})	11.35	2.16
Total Particulate Matter (TSP)	45.72	2.16
Sulfur Dioxide (SO_2)	58.0	4.99
Volatile Organic Compounds (VOC)	2,586.7	521.07

PM_{10} is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2008 Actual Emissions
Acrylic Acid	0.66	0.0
Cumene	1.26	0.002
Ethyl Benzene	38.40	19.88
Ethylene Glycol	0.036	0.0
Formaldehyde	0.36	0.0
Hydroquinone	0.004	0.0
Methanol	235.08	73.52
Methyl Isobutyl Ketone	13.66	1.04
Toluene	273.88	134.7
Xylene	182.5	84.6
Glycol Ethers	2.7	0.0
Methyl Methacrylate	0.04	0.0

Some of the above HAPs may be counted as PM or VOCs.

NOTE: The above potential emissions were determined as follows:

- § VOC, CO, NO_x, and SO_2, were estimated based upon maximum permitted emissions.
- § PM_{10} were estimated based upon maximum permitted emissions, plus maximum potential emissions from baghouse DC-5.
- § HAP was estimated as 2.0 times the 2000 actual emissions. This estimate was used since reported 2000 calender year VOC emissions reflect approximately one-half of the facility's production potential.

Title V Program Applicability Basis

This facility has the potential to emit 2,586.7 TPY VOC, 102.61 TPY CO, 38.4 TPY Ethyl Benzene (HAP), 235.08 TPY Methanol (HAP), 273.88 TPY Toluene (HAP), 182.5 TPY Xylene (HAP) and 748.6 TPY of aggregate HAPs. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, American Woodmark Corporation is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	Opacity and PM limits for boilers
	45CSR6	Open burning prohibited.
	45CSR7	PM and Opacity limits for manufacturing sources
	45CSR10	Sulfur dioxide limits for boilers
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Preconstruction permits for minor sources
	45CSR14	Preconstruction permits for major sources
	WV Code § 22-5-4 (14)	The Director can request any pertinent information such as annual emission inventory reporting
	45CSR16	Incorporation of NSPS pursuant to 40CFR60
	40CFR60	Subparts A & Dc - Small Industrial Boilers
	45CSR30	Operating permit requirement.
	45CSR34	Incorporation of NESHAPs pursuant to 40CFR63 and 40CFR61
	40CFR61	Asbestos inspection and removal
	40CFR63	Subparts A & JJ - Wood Furniture Manufacturing Operations MACT Pending DDDDD Rule development
	40CFR64	Compliance Assurance Monitoring
	40CFR82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.,* 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit *(if any)*
R13-2220D	07/12/2005	
R13-1829A	03/26/2004	
R14-0002	11/14/1986	**Feb. 5, 1987, Administrative Letter**

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

Determinations and Justifications

The following paragraphs summarize the applicable requirements that were evaluated under this Title V renewal.

40 C.F.R. Part 64 – *Compliance Assurance Monitoring*

The renewal application contains a CAM plan for five pieces of wood working machinery, WM-1, WM-2, WM-4, WM-5, WM-6. These woodworking stations are each controlled by a baghouse to assure compliance with the 45CSR§7-4 - PM mass rate limitation for manufacturing. These sources are also subject to the limitations of a construction permit in accordance with 45CSR13. The 45CSR13 permit limits were found to be more stringent on all related emission points, with the exception of DC-5, which did not have a Rule 13 limit established.

For manufacturing sources, the allowable PM emission rates are established according to process weight rates as defined by Table 45-7A, within 45CSR7. These weight rates are based on the density and amount of wood processed. The applicable 45CSR13 permit requires use of particulate control in accordance with 45CSR7. However, it establishes PM limits based on control equipment loading and the manufacturer's specified control efficiency. As a result, the 45CSR13 permit limitations are well below the standards set by 45CSR7 with the exception of DC-5. The following table summarizes the equipment and applicable PM limitations under each of the state regulations.

Woodworking Equipment / Air Pollution Control Device	45CSR7 Process Weight Rate	45CSR7 (lb/hr)	45CSR13 (lb/hr)	45CSR13 (ton/yr)
WM-1/DC-1	10,697	10.42	0.93	3.3
WM-2/DC-2	5,349	5.35	0.93	3.3
WM-4/DC-4	10,407	10.24	0.47	1.7
WM-5/DC-5	6,097	6.1	N/A	
WM-6/DC-6	11,736	11.04	2.27	7.08

Each of the woodworking units are a pollutant-specific emission units (PSEU) for the purposes of CAM, with particulate matter as the affected pollutant. The PM emissions from each woodworking machine are controlled by pulse jet baghouses. These control devices utilize 100% capture efficiency, and provide 99+ % control efficiency.

Furthermore, the potential pre-control emissions of PM from each PSEU is greater than 100 ton/yr, the major source threshold for PM. Thus, all PSEUs meet the CAM applicability criteria given under 40 C.F.R. §§64.2(a)(1)-(3). Table 1summarizes American Woodmark's monitoring plan.

Table 1: CAM plan for American Woodmark's Hardy County Facility

Units WM-1, 2,4, 5, and 6 as well as associated dust collectors DC-1, 2, 4, 5 and 6.			**Indicator No. 1**	**Indicator No. 2**
I.	**Indicator**		Pressure Drop (delta P)	Opacity
	Monitoring Approach		Monitor delta P Across Baghouse	Method 9
II.	**Indicator Range or Designated Condition**		0.5 - 4.0 inches of water	Less than 10%
III.	**Performance Criteria**		Pressure drop from Inlet to Outlet Manufacturer's Recommended Operating Range	According to Method 9 Procedures
	A.	**Data Representativeness**		
	B.	**Verification of Operational Status**	Periodic Calibration of Magnehelic Pressure Gauge	Semi Annual Certification
	C.	**QA/QC Practices and Criteria**	Periodic calibration	Semi Annual Certification
	D.	**Monitoring Frequency**	Once per shift	Monthly
		Data Collection Procedures	Manual or electronic	Observation by Certified Personnel
		Data averaging periods	Daily	6 Minute Blocks

An excursion of the indicator is defined as two consecutive daily average readings outside of the designated operating range. Excursions trigger an inspection, evaluation, and corrective action. Excursions are also required to be documented in the recordkeeping and reporting requirements. If five (5) percent or greater of the daily average baghouse differential pressure values indicate an excursion of the established range during a calendar quarter, the permittee may be required to develop and implement a quality improvement plan (QIP), depending on a determination which addresses all surrounding factors that contributed to such increased excursions.

MACT Applicability

After consultation with US EPA Region III in which DAQ was informed that 112(j) applied to the vacated standard 40 C.F.R. 63, Subpart DDDDD, “National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters”, but that no date of becoming subject was known, the agency determined that inserting a permit condition to address this situation to allow for a permit application shield while US EPA was in the process of re-proposing and re-promulgating a MACT standard was a reasonable course of action and use of limited resources. The agency’s current position to

delay the 112(j) reviews is based on the September 10, 2009 order filed by the United States District Court for the District of Columbia for US EPA to issue a new Boiler and Process Heater MACT to be proposed by April 15,2010 and promulgated by December 16, 2010; to maintain national consistency; and to most effectively use agency resources.

Changes to Initial Permit

Boilers B1 and B3 completed initial stack testing for NOx, CO, and PM in accordance with initial permit conditions 4.3.2 and 4.3.3. As a result, the initial testing requirements were removed. Additionally, it was anticipated that boiler testing would be completed and used to develop site specific emission factors. Therefore, within permit condition 4.2.4, the references to 4.3.2. and 4.3.3. testing was also removed and replaced with, "factors derived from performance testing shall be incorporated into the compliance demonstration."

The results of the test were documented within an April 13, 2005 compliance submittal. Since this time, emission limits for B3 were increased under permit number R13-2220D to reflect the updated emission data. New limits for Boiler B3 were approved, that slightly increased allowable emissions of NOx by 1.12 lb/hr, CO by 0.75 lb/hr and total suspended particulate (TSP) by 0.72 lb/hr. The writer notes that the new limits provide a compliance margin of approximately 7% when compared to NOx and CO test values. The compliance margin for TSP was a little more at
approximately 12%, which resulted from increasing the Rule 13 emission limit to coincide with the 45CSR2 allowable PM limit of 3.6 lb/hr. As a result of the emission limit now matching the Rule 2 allowable rate, the streamlining language that followed the emission table was removed from permit condition 4.1.8.

Boiler B1, test results were found to be well within the limits established per condition 4.1.1. of the Title V permit. A much larger compliance margin, approximately 75%, was recognized for NOx and CO. The particulate matter (PM) compliance margin was considerably smaller at 25%. It was noted by the writer that each boiler's tabulated stack test results were in agreement with AP-42 emission factor ranges, with the exception of CO on boiler B3. The B3 boiler testing resulted in an emission factor of 0.93 lb CO/ MMBtu, where AP-42 reports 0.60 lb CO/ MMBtu.

It is expected that these boilers will undergo further testing before the next permit term as a result of being subject to the new up and coming boiler MACT standard under 40 CFR 63. If EPA does not promulgate such a standard within their court ordered deadline the permittee shall submit a 112(j) permit application for case-by-case MACT determination. These 112(j) requirements were added to the renewal permit under the facility wide requirements under 3.1.9.

Request for Variances or Alternatives

None

Insignificant Activities

The following table provides a list of equipment and air emission sources which have no substantive requirements, but are located at the subject facility. Note that additional equipment (those subject to an applicable requirement) are listed in the permit and are not contained below.

Source ID	Emission Point ID	Equipment Description	Design Capacity	Year Installed

T2	T2	Top Coat Storage Tank	5,500 gal	1993
T3	T3	Sealer Storage Tank	5,500 gal	1993
T4	T4	Band Cleaner Storage Tank	10,000 gal	1989
T5	T5	Recycled Band Cleaner Storage Tank	2,000 gal	1995
T6	T6	Propane Storage Tank	1,000 gal	1998
T7	T7	Calgon Geo-Guard 9512 Flocculant Polymer (or equivalent) Storage Tank	2,500 gal	2001
T8	T8	Calgon Buffer Solution (or equivalent) Storage Tank	1,500 gal	2001

Comment Period

Beginning Date: December 9, 2009
Ending Date: January 8 , 2010

All written comments should be addressed to the following individual and office:

Jesse Hanshaw, P.E.
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Point of Contact

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601 57th Street SE
Charleston, WV 25304
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Response to Comments

No comments received